

Safety.....Can it be Regulated?

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I have been involved in investigating a number of internal accidents over a number of years, it is usually quiet easy to establish the technical causes for the accidents that took place as there are regulations in place that guide an investigation to make certain conclusions . I always felt that there where underlying facts that had an influence on the accidents and I decided to investigate the underlying causes, in doing the research the questioned I asked myself was “Can safety be regulated” By the end of the conclusion some of you may agree with me and some may not but if in the end I stimulated debate around the safety then I would have achieved my goal.

INTRODUCTION

South Africa is one of the most regulated countries in the world when it comes to safety. The Occupational, Health and Safety Act is a comprehensive collection of Laws and Regulations, with over 23 regulations and sub-regulations that control How, What, When Who and Where safety is implemented.

Surely with such comprehensive laws in place, far less/or no accidents should occur.

We need to ask the question “Then why do accidents still occur?”

One of the usual reasons provided in recent year is: “It should be remembered that our present work force is uneducated, ill trained and poorly skilled”

In the 12 years that I have been with Buffalo City, I have been involved in a number of internal accident investigations. I have conducted further research into recent accidents that have occurred in our industry. I have looked beyond the normal technical reasons to reach my conclusion.

In the electrical industry accidents are a major concerns because while electricity under normal conditions is usually an unseen force, under fault conditions it become a very visible and destructive force which usually leads to

- Death or Injury
- Catastrophic damage to equipment
- Loss of income to both the utility and consumers.

To illustrate my conclusion I will discuss three of the accidents that I researched:

ACCIDENT 1: (Unsafe Switching Procedure)

This accident involved two operators that were performing switching, due to time and the need to return consumers to service normal switching procedures were not followed.

Normally the circuits being switched would have had all down stream loads disconnected. The two main feeders would then have been closed onto no load or a much reduced load. The down stream load would have been slowly returned to service to ensure that overloading did not take place.

On the day of the accident the decision was taken to close the two main breakers simultaneously onto the full load.

While under some circumstances such procedure could be considered, it should never have been considered on this circuit for the following

- Not humanly possible to close the breaker at the exact same time.
- The cables carrying the full load were of different sizes
- The breakers of different railings.

The over riding fact was that neither one of the feeders could not take the full load.

With the in-rush of current one of the breaker failed causing extensive damage to the equipment and the adjacent breakers. Sadly major injuries also occurred to one of the operators.

The factors leading to this accidents where

- Time related taking a short cut to reduce outage time .While the intention was good the results speak for themselves.
- Not all the engineering factors were taken into account when switching the load.
- Ignoring general safety

PERSONNEL

The personnel involved in this accident were well qualified. (Engineer and Senior Electrician). They had over twenty years experience between them.

The relevant clause and regulations that should have prevented this accident are as follows:

THE ACT

- Clause 14 General Duties OF Employees at Work
- The Regulation 15 General Machinery Regulations
Clauses 3.1, 4.1 and 4.5

ACCIDENT 2: (Barricading and Supervision)

This accident occurred during what should have been normal/routine maintenance of a 66kv switch yard. The area to be maintained was correctly isolated, earthed and barricaded.

All workers involved received the normal safety talk (tailgate) before work commenced.

One of the workers left the barricaded area without permission to relieve himself. On returning he climbed over the barricading into the live section of the yard and climbed a live structure and made contact. The supervising electrician was unaware of what was happening as he was occupied with other work.

The overriding factor in this case was that it was the end of the day and the people involved were concerned with completing all the work as quickly as possible so that they would be complete by normal time.

The factors leading to this accident were:

- The labourer involved did not follow the correct procedures when leaving and returning to the work area.
- The barricading was ignored
- No proper supervision by the electrician in charge
- Ignoring general safety
- Time

PERSONNEL

The personnel involved in this accident had many years of experience. The labourer had 20 years field experience in this type of work. The electrician had over 10 years experience.

THE ACT

The relevant clause and regulations that should have prevented this accident are as follows:

- Clause 14 General Duties OF Employees at Work
- The Regulation 15 General Machinery Regulations
Clause 3.1

ACCIDENT 3:(Incorrect Hot Line Tapping Procedure)

A contractor was commissioned to build a new line, he was provided with all the information to complete his task.

On completion he requested a final inspection which was granted. For the inspection he had removed all his staff and earths from the line.

During the inspection it was found that line dampers had not been installed. The contractor was instructed to install the dampers. To save time the normal procedure of testing and installing earths were ignored. The contractor proceeded to install the dampers, further down the line at the take off point the line had been made live using the hot line tapping method. The contractor had not been informed that the line had been made live as this was done without following normal procedures. The contractor was electrocuted.

The over riding factor in this case was that it was close to the end of the day and the people involved were concerned with completing all the work as quickly as possible so that they would be complete by normal time.

The factors leading to this accidents were:

- The contractor had not completed his work as instructed
- The line was energized without following the correct procedures
- On returning to the line the contractor did not follow the correct procedure
- Ignoring general safety
- Time

PERSONNEL

The electricians involved in this accident had many years experience between them. Over 15 years experience.

THE ACT

The relevant clause and regulations that should have prevented this accident are as follows:

- Clause 14 General Duties OF Employees at Work
- The Regulation 15 General Machinery Regulations
Clause 3.1

CONCLUSION

The reason provided in the introduction “It should be remembered that our present work force is uneducated, ill trained and poorly skilled” is not a reason but an excuse.

In providing my conclusion to my research I tried to look beyond the normal technical reason. I looked at the underlying route cause to answer the question “Then why do accidents still occur?”

To answer this question, I asked what safety is and I believe the following:

- It the time taken to do a job properly.
- It's the work ethic we apply to the work.
- I believe we need to return to old time value of sharing knowledge, skill, attitude and pride. This goes for both the employer and the employee we should move away from the attitude of “I get a paid for 8 hours that what you get.” to an attitude of I have pride in what I do and will take the time I need to do the job right.
- The employer should also have an attitude of showing gratitude to those that do show pride in their work and company.

In the final analysis, I believe the answer to the question “ **Can** Safety be regulated”

Is "NO".

The regulations are in place and most accidents take place in contravention of these Regulations

Safety should be inherent to all workers. It should be re-enforced over and over as part of on going training. It should be understood by all that while safety is everyone's responsibility; ultimately personal responsibility remains that of the individual.

"Safety is everyone's responsibility"